

**IN THE CLAIMS:**

1           1. (Original) A spacerless or geocomposite double bottom apparatus for a storage tank  
2        having a metal bottom and upwardly extending metal sidewalls, which apparatus comprises:  
3            a first lining layer of flexible plastic on top of said metal bottom;  
4            a plastic grid having a plurality of openings therethrough on top of said first lining  
5        layer;  
6            at least one layer of fiber insulation on top of said grid; and  
7            an upper metal bottom on top of said fiber material welded to said sidewalls.

1           2. (Original) A double bottom apparatus as set forth in Claim 1 wherein said first lining  
2        layer is a high density polyethylene sheet.

1           3. (Original) A double bottom apparatus as set forth in Claim 1 wherein said plastic grid  
2        is composed of high density polyethylene.

1           4. (Original) A double bottom apparatus as set forth in Claim 1 wherein said fiber  
2        insulation is mechanically bonded mineral or glass wool.

1           5. (Original) A double bottom apparatus as set forth in Claim 4 including two layers of  
2        said mechanically bonded mineral or glass wool.

1           6.       (Original) A double bottom apparatus as set forth in Claim 1 wherein said upper  
2 bottom extends through slots in said sidewalls and is welded thereto by welding to a flat bar  
3 extending from said sidewalls.

1           7.       (Original) A double bottom apparatus as set forth in Claim 6 wherein all welds are  
2 made from above said upper bottom.

1           8.       (Original) A double bottom apparatus as set forth in Claim 1 including a leak  
2 detection port through said sidewalls between said original bottom and said upper bottom.

1           9.       (Original) A double bottom apparatus as set forth in Claim 7 wherein said leak  
2 detection port includes a clear cylindrical tube so that fluid therein is visible.

1           10.      (Original) A double bottom apparatus as set forth in Claim 1 wherein a fluid tight  
2 containment space is created between said upper bottom, said sidewalls, and said first lining layer.

1           11.      (Original) A double bottom apparatus as set forth in Claim 10 wherein said fluid tight  
2 containment space is purged of oxygen.

1           12.      (Original) A double bottom apparatus as set forth in Claim 11 wherein said lining  
2 layer is fastened to said metal bottom by a plurality of fasteners.

1           13. (Original) A double bottom apparatus for a storage tank as set forth in Claim 1  
2        including a sealant between said first lining and said sidewalls.

1           14. (Withdrawn) A method of installing a spacerless double bottom for a storage tank  
2        having a metal bottom and upwardly extending sidewalls, which method comprises the steps of:  
3               installing a first lining layer of flexible plastic on top of said metal bottom;  
4               installing a plastic grid having a plurality of openings therethrough on top of said  
5        lining layer;  
6               installing at least one layer of fiber insulation on top of said grid; and  
7               installing a new upper metal bottom above said natural fiber material.

1           15. (Withdrawn) A method of installing a spacerless double bottom apparatus as set forth  
2        in Claim 14 including the additional step of affixing said lining layer to said metal bottom.

1           16. (Withdrawn) A method of installing a spacerless double bottom apparatus as set  
2        forth in Claim 14 wherein said step of installing at least one layer of fiber insulation includes  
3        installing two layers of said fiber insulation.

1           17. (Withdrawn) A method of installing a spacerless double bottom apparatus as set forth  
2        in Claim 14 wherein said step of installing a new upper metal bottom includes the steps of cutting  
3        a plurality of openings through said sidewalls, inserting a plurality of flat plates in said tank and  
4        through said sidewalls, and welding said flat plates to said sidewalls.

1           18. (Withdrawn) A method of installing a spacerless double bottom apparatus as set  
2 forth in Claim 17 wherein all welding is performed from above said flat plates.

1           19. (Withdrawn) A method of installing a spacerless double bottom apparatus as set forth  
2 in Claim 14 wherein said flat plates are welded to flat bars previously welded and extending from  
3 said sidewalls.

1           20. (Withdrawn) A method of installing a spacerless double bottom apparatus as set  
2 forth in Claim 14 wherein said lining layer, said sidewalls and said upper bottom form a fluid-tight  
3 secondary container and including the additional step of purging said container of oxygen.

1           21. (Withdrawn) A method of installing a spacerless double bottom apparatus as set forth  
2 in Claim 14 including the additional step of installing a leak detection port through said sidewalls.

1           22. (New) A spacerless or geocomposite double bottom apparatus for a storage tank  
2 having a metal bottom and upwardly extending metal sidewalls, which apparatus comprises:  
3           a first lining layer of flexible plastic on top of said metal bottom;  
4           a plastic grid having a plurality of openings therethrough on top of said first lining  
5 layer;  
6           at least one layer of fiber insulation on top of said grid; and  
7           an upper metal bottom on top of said fiber material extending through slots in said  
8 sidewalls and welded thereto by welding to a flat bar extending from said sidewalls.